

CLAIMS

1. A biologically active substance-immobilized device, which comprises a base particle comprising a core particle and an organic compound having two or more hydrophilic groups and immobilized on the core particle by a chemical bond and a biologically active substance bonded to the base particle via the organic compound.

2. The device according to claim 1, which is used in an aqueous medium.

3. The device according to claim 1 or 2, wherein the base particle has an average particle diameter of 0.01 to 100 μm .

4. The device according to any one of claims 1 to 3, wherein the base particle has a spherical or substantially spherical shape.

5. The device according to any one of claims 1 to 4, wherein at least one of CV_b ratio and CV_c ratio defined by the following equations is 0.6 to 3.0:

$$CV_b \text{ ratio} = CV_1/CV_3$$

$$CV_c \text{ ratio} = CV_2/CV_3$$

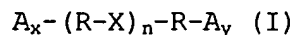
$$CV_1 = (\text{Standard deviation of core particle diameter} / \text{Average core particle diameter}) \times 100$$

$$CV_2 = (\text{Standard deviation of base particle diameter} / \text{Average base particle diameter}) \times 100$$

$$CV_3 = (\text{Standard deviation of device diameter} / \text{average device particle diameter}) \times 100$$

6. The device according to any one of claims 1 to 5, wherein the core particle and the biologically active substance are bonded by a reaction with a functional group selected from carbodiimide group, ester group, carbonate group, epoxy group and oxazoline group.

7. The device according to any one of claims 1 to 6, wherein the organic compound is a compound represented by the following formula:



wherein A_x and A_y independently represent a segment having a functional group that exhibits hydrophilicity and may be identical or different, R independently represents an organic group of two or more valences, X independently represents carbodiimide group, epoxy group or oxazoline group, and n is an integer of 2 to 80, preferably 2 to 40.

8. The device according to any one of claims 1 to 7, wherein the biologically active substance is selected from a nucleic acid, protein, hapten and saccharide.

9. The device according to any one of claims 1 to 8, which is for detecting or measuring a second biologically active substance contained in a sample by using a specific bond of the biologically active substance and the second biologically active substance in the sample.

10. The device according to any one of claims 1 to 8, wherein the biologically active substance is an agent for therapeutic treatment of a disease.